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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/873,698 | 06/04/2001 | Slawomir T. Fryska | H0001347 | 4771 |

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| EXAMINER |
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BUTLER, DOUGLAS C

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| ART UNIT | PAPER NUMBER |
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3683

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/873,698

Applicant(s)

FRYSKA ET AL.

Examiner

Douglas C. Butler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/30/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-9, 18-20 remain subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Part III

1. The Request For Reconsideration filed Oct. 30, 2003 has been received and carefully considered.
2. Claims 1-9 and 18-20 are pending as being readable on the elected species A (Figs. 2-4). Election was made without traverse in Paper No. 6 filed May 17, 2002.
3. Claims 10-17 were canceled.
4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).
5. Applicants state applicants do not concede that the translation supplied to applicants from STIC by way of the examiner is accurate. The examiner suggests that applicants obtain at applicants' expense a translation from an independent certified translator to resolve any doubts that applicants have as to the accuracy of the USPTO translation or USPTO contracted translation. A copy of such translation should be furnished to the USPTO to complete the record.
6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1, 3, 4, 6, 18, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of the principal references to Hyde et al (5, 779, 006) or Riebe (5709288) or Cook (3, 712, 427) or Hyde et al (5558186), all of record in view of Carew (2013948), newly cited.

Each one of the principal references discloses an annular structural reusable core and friction linings wherein the linings once worn may be replaced with the core being reusable.

Each one of the principal references lacks the feature of instant claims 1 and 18 directed to the use of a sinusoidally-shaped mounting surface between the core and associated friction lining. The instant specification makes it clear that the use of a sinusoidal or corrugated interface between the lining(s) and core or backing plate/carrier strengthens the connection to better fasten the lining(s) by the interlocking nature of the sinusoidal connection. The examiner agrees that the use of a sinusoidal or corrugated connection achieves a strong connection. The use of the sinusoidal connection of instant Fig. 4 with the mechanical fastener 45 permits a quick and efficient replacement.

The secondary reference to Carew (2013948) discloses the use of a sinusoidal or corrugated connection at 18 in Fig. 1-3 between the friction lining 20 and core or backing plate at 16.

See the entire disclosure of Carew (2013948), in particular, page 1, column 2, lines 1-55, page 1, column 2, lines 1-32, 42-55, page 2, column 1, lines 1-57 and page 2, column 2, lines 1-35. Note the mechanical connectors at 23, 23' of Figs. 1-3 of Carew which correspond to connector 45 of instant Fig. 4.

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It would have been obvious at the time the invention was made to modify the brake friction disks of each of the principal references to connect the friction linings to the associated reusable core by the use of a sinusoidal or corrugated connection or interface as taught by Carew (2013948) with its fastener 23 or 23' to provide for a stronger friction lining to core, carrier or backing plate connection so as to better fasten the lining to its support and to hinder the lining from detaching during use by the interlocking nature of the sinusoidal or corrugated connection.

The claims are directed to the disk brake art while Carew (2013948) is directed to the drum brake art. These technologies are inseparably linked. Carew (2013948) is reasonably pertinent to the particular problem with which the invention is directed, i.e., strengthening the connection between a lining and its core, carrier or backing plate by a sinusoidal interface so as to hinder separation during use by the interlocking nature with the added ability to replace the lining quickly by the use of a mechanical fastener. See MPEP 2141.01 (a) and MPEP 2145. Carew is considered to be analogous art in view of the above. One having ordinary skill in the art recognizes the similarity between disk brake and drum brakes as it pertains to connecting the linings, whether involving a friction disk brake lining or involving a friction drum brake lining re its associated support, carrier, core or backing plate. Should applicants disagree with the examiner's position that Carew is analogous art, applicants should submit objective and convincing evidence to support their position. Note, however, that one having ordinary skill in the disk brake art routinely looks to the drum brake, clutch and fastener technologies when arriving at the type of fasteners available best suitable for the application involved.

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8. Claims 2, 5, 7-8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art modified in paragraph 7 above in view of Pigford (4982828), of record.

Instant claims 2, 5, 7-8 and 19 are directed to the use of carbon-carbon composite for the material of choice for the core and/or friction lining.

The principal references, as modified, lack the specific claimed materials.

Pigford (4982818) discloses the feature of carbon-carbon core and/or friction linings.

It would have been obvious to select carbon-carbon as taught by Pigford since the use of carbon-carbon is a well known material for the intended use for enhanced braking capability. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art modified in paragraph 8 above in view of Hill et al (4011055), of record.

Each one of the principal references, as modified, lacks the recitation of instant claim 9 directed to the wear surface having "a thermal barrier coating."

Hill et al (4011055) teaches the use of an anti-oxidant coating (thermal coating) in order to reduce oxidation during high temperature operation.

It would have been obvious at the time the invention was made to one having ordinary skill in the art to which the invention pertains to modify each of the principal

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references, as modified, to include a thermal coating as taught by Hill et al (4011055) in order to reduce oxidation during high temperatures.

10. Applicant's arguments with respect to claims 1-9 and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

11. Any inquiry concerning this communication should be directed to Exmr. Butler at 703-308-2575. The examiner is normally in the USPTO Monday-Friday between 5:30 a.m. to 2 p.m.

12. The fax number is 703-872-9326.

13. General inquiries should be directed to the receptionist at 703-308-1113.


DOUGLAS C. BUTLER
PRIMARY EXAMINER
1/24/04
AU3662

Butler/vs
January 14, 2004